

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: 58174718 A
(43) Date of publication of application: 13.10.1983

(51) Int. Cl. F16C 33/52
F16C 33/32

(21) Application number: 57055339
(22) Date of filing: 05.04.1982

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(54) BALL-AND-ROLLER BEARING

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(57) Abstract:

PURPOSE: To improve resistance to heavy load and resistance to high speed rotation and also extend time of endurance by forming, by means of ion plating, a material coat mainly composed of nitriding titanium on face of contact between a rolling body and races of a ball-and-roller bearing used in high vacuum atmosphere.

CONSTITUTION: Coats 15, 16, 17 made of nitriding titanium or material mainly composed of nitriding titanium are formed covering respective faces of contact between inner, outer races 11, 12 and a rolling body 13 by means of ion plating. From the above, the faces of contact become to be superrigid causing drop of coefficient of friction and can be made abrasion-resistant, therefore, not only resistance to heavy load and high-speed rotation is improved but also time of endurance can be extended.

